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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/798,024	03/11/2004	Bo Li	KLA-P1362 US	5994
27652	7590	07/28/2006	EXAMINER	
JOSHUA D. ISENBERG JDI PATENT 809 CORPORATE WAY FREMONT, CA 94539			CONNOLLY, PATRICK J	
			ART UNIT	PAPER NUMBER
			2877	

DATE MAILED: 07/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/798,024	<b>Applicant(s)</b> LI, BO	
	<b>Examiner</b> Patrick J. Connolly	<b>Art Unit</b> 2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 March 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-35 is/are allowed.
- 6) ☒ Claim(s) 36-38 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>03.11.2004</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 38 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 38, which is dependent on claim 36, recites the limitation "the variable optical material" in line 1. There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 102***

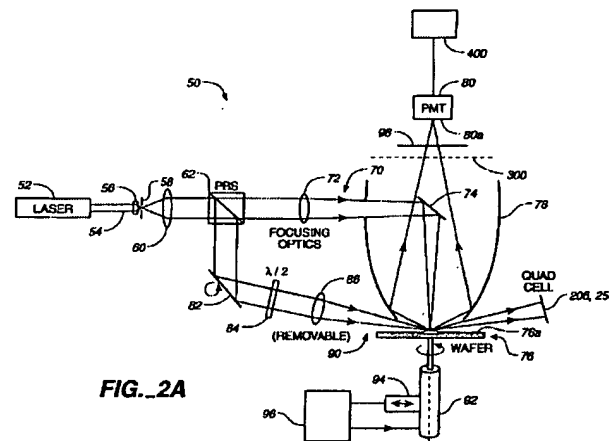
The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 36 and 38 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by U.S. Patent No. 6,201,601 to Vaez-Iravani et al (hereafter '601).

As to claim 36, '601 teaches a method for enhancing a signal to noise ration in a sample inspection system (see Figure 2a below) including:



in a sample inspection system of the type having collection optics including a collection optics (78) that receive radiation scattered from a point on a sample surface (76a) proximate a symmetry axis of the collection optics and direct the scattered radiation toward a detector (PMT 80), a method for enhancing a signal to noise ratio, the method comprising the steps of: collecting part of the scattered radiation with an imaging device (PMT 80); generating an image of the scattered radiation wherein a signal from defects on the surface is distinguishable from a background noise due to surface roughness; and in response to the image, selectively screening the detector from portions of the scattered radiation corresponding to the background noise (see columns 11 and 12, also Figures 9A-9F).

As to claim 38, '601 discloses a variable optical member comprising a liquid crystal display member (98, Figure 2A; see also Figures 10A, 10B, also column 11, lines 60-67 through column 12, lines 1-22).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over '601 as applied above.

As to claim 37, '601 teaches a programmable spatial filter including variable optical material having a plurality of geometric shapes, each shape being selectively configurable in either a first state or a second state, the shape being substantially opaque in the first state and substantially radiation transmitting in the second state (see analysis with respect to claim 38 above, especially column 11, lines 60-67 through column 12, lines 1-22).

Although Figure 10B teaches a circular spatial filter with pie-shaped wedges, '601 teaches that the shapes can take any number of formations (see column 12, lines 18-23).

The Examiner takes Official Notice of the fact that it is well known in the art to use a pixilated liquid crystal display as a spatial filter as the small size of the pixels allow for the greatest amount of geometric configurability of the filter (see, for example, the liquid crystal spatial filter used in U.S. Patent No. 5,986,781 to Long).

It would have been obvious to one of ordinary skill in the art at the time of invention to use a pixilated spatial filter in the apparatus and method of '601 so as to achieve a highly configurable spatial filter for improving selective scattered noise blocking and thereby improving the signal-to-noise ratio.

***Allowable Subject Matter***

Claims 1-35 allowed.

The following is an examiner's statement of reasons for allowance:

As to claim 1, the prior art of record, taken alone or in combination, fails to disclose or render obvious a sample inspection including: a spatial filter or system being configured to screen the detector from the scattered radiation scattered in a direction having a backward azimuthal component relative to the incident radiation and an elevation angle less than about  $45^\circ$  with respect to a normal to the surface whereby the detector is screened from scattered noise while a backscattered signal is allowed to reach the detector, in combination with the rest of the limitations of claim 1.

As to claim 20, the prior art of record, taken alone or in combination, fails to disclose or render obvious a spatial filter for a sample inspection including: a portion being sized and shaped such that when the spatial filter is disposed between the collection optics and the detector the opaque portion screen the detector from the scattered radiation scattered in a direction having a backward azimuthal component relative to the incident radiation and an elevation angle less than about  $45^\circ$  with respect to a normal to the sample surface, whereby said opaque portion screens the detector from forward scattered noise while the opening allows a backscattered signal to reach the detector, in combination with the rest of the limitations of claim 20.

As to claim 32, the prior art of record, taken alone or in combination, fails to disclose or render obvious a method of sample inspection including: screening the detector from the scattered radiation that is scattered in a direction having a backward azimuthal component relative to an incident radiation and an elevation angle less than about  $45^\circ$  with respect to a normal to the surface, whereby forward scattered noise is screened from the detector while backscattered signal reaches the detector, in combination with the rest of the limitations of claim 32.


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Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick J. Connolly whose telephone number is 571.272.2412. The examiner can normally be reached on 9:00 am - 7:00 pm Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr. can be reached on 571.272.2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Patrick Connolly 07.18.2006